EXHIBIT K

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: **ROCHETTE ET AL.**)))	Atty. Docket No.: **78803 (120-2 US)**
Serial No. **10/946,536**))	Art Unit: **4113**
Filing Date: **SEPTEMBER 21, 2004**))	Examiner: **SYED A. RONI**
Confirmation No. **7612**))	

For: **COMPUTING SYSTEM HAVING USER**)
  MODE CRITICAL SYSTEM ELEMENTS)
  AS SHARED LIBRARIES)
)	

AMENDMENT AFTER FINAL

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the Final Official Action of April 2, 2009, please enter the amendments and consider the remarks set out below.

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In the Claims:

1.   (Currently Amended) A computing system for executing a plurality of software applications comprising:

a) an operating system having an operating system kernel having OS critical system elements (OSCSEs) for running in kernel mode; and,

b) a shared library having critical system elements (SLCSEs) stored therein for use by the plurality of software applications in user mode and

i) wherein some of the SLCSEs stored in the shared library are <u>functional</u> replicas of OSCSEs and are accessible to some of the plurality of software applications and when one of the SLCSEs is accessed by one or more of the plurality of software applications it forms a part of the one or more of the plurality of software applications, and

ii) wherein an instance of a SLCSE provided to one or more of the plurality of software applications from the shared library is run in a context of said one or more of the plurality of software applications without being shared with other of the plurality of software applications and where one or more other of the plurality of software applications running under the operating system have use of a unique instance of a corresponding critical system element for performing essentially the same function.

2.   (Original) A computing system as defined in claim 1, wherein in operation, multiple instances of an SLCSE stored

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in the shared library run simultaneously within the operating system.

3.   (Original) A computing system according to claim 1 wherein OSCSEs corresponding to and capable of performing essentially the same function as SLCSEs remain in the operating system kernel.

4.   (Previously Presented) A computing system according to claim 1 wherein the one or more SLCSEs provided to one of the plurality of software applications having exclusive use thereof, use system calls to access services in the operating system kernel.

5.   (Original) A computing system according to claim 1 wherein the operating system kernel comprises a kernel module adapted to serve as an interface between a SLCSE in the context of an application program and a device driver.

6.   (Previously Presented) A computing system as defined in claim 1, wherein an SLCSE related to a predetermined function is provided to a first of the plurality of software applications for running first instance of the SLCSE, and wherein an SLCSE for performing essentially a same function is provided to a second of the plurality of software applications for running a second instance of the SLCSE simultaneously.

7.   (Original) A computing system according to claim 5 wherein the kernel module is adapted to provide a notification

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of an event to an SLCSE running in the context of an application program, wherein the event is an asynchronous event and requires information to be passed to the SLCSE from outside the application.

8.   (Previously Presented) A computing system according to claim 7 wherein a handler is provided for notifying the SLCSE in the context of one of the plurality of software applications through the use of an up call mechanism.

9.   (Original) A computing system according to claim 7 wherein the up call mechanism in operation, executes instructions from an SLCSE resident in user mode space, in kernel mode.

10.   (Previously Presented) A computing system according to claim 2, wherein a function overlay is used to provide one of the plurality of software applications access to operating system services.

11.   (Previously Presented) A computing system according to claim 2 wherein SLCSEs stored in the shared library are linked to particular software applications of the plurality of software applications as the particular software applications are loaded such that the particular software applications have a link that provides unique access to a unique instance of a CSE.

12.   (Original) A computing system according to claim 2 wherein the SLCSEs utilize kernel services supplied by the

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operating system kernel for device access, interrupt delivery, and virtual memory mapping.

13.   (Original) A computing system according to claim 1, wherein SLCSEs include services related to at least one of, network protocol processes, and the management of files.

14.   (Previously Presented) A computing system according to claim 11 wherein some SLCSEs are modified for a particular one of the plurality of software applications.

15.   (Original) A computing system according to claim 14 wherein the SLCSEs that are application specific, reside in user mode, while critical system elements, which are platform specific, reside in the operating system kernel.

16.   (Original) A computing system according to claim 5 wherein the kernel module is adapted to enable data exchange between the SLCSEs in user mode and a device driver in kernel mode, and wherein the data exchange uses mapping of virtual memory such that data is transferred both from the SLCSEs in user mode to the device driver in kernel mode and from the device driver in kernel mode to the SLCSEs in user mode.

17.   (Previously Presented) A computing system according to claim 1 wherein SLCSEs form a part of at least some of the plurality of software applications, by being linked thereto.

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18.   (Original) A computing system according to claim 2 wherein the SLCSEs utilize kernel services supplied by the operating system kernel for device access, interrupt delivery, and virtual memory mapping and otherwise execute without interaction from the operating system kernel.

19.   (Original) A computer system as defined in claim 2 wherein SLCSEs are not copies of OSLCEs.

20.   (Original) An operating system comprising the computing system of claim 2.

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REMARKS

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The Examiner is thanked for the thorough examination
of the present application. The Examiner and his Supervisor are
also thanked for the telephonic interview of June 3, 2009,
during which the current claim rejections were discussed and
wherein the Examiner agreed that claim amendments along the
lines made herein to advance prosecution would define over the
prior art. No new matter has been added. The patentability of
the claims is discussed below.

I.   The Claimed Invention

The present invention, as recited in amended
independent Claim 1, for example, is directed to a computing
system for executing a plurality of software applications. The
computing system includes an operating system having an
operating system kernel having OS critical system elements
(OSCSEs) for running in kernel mode. The computing system also
includes a shared library having critical system elements
(SLCSEs) stored therein for use by the plurality of software
applications in user mode. Some of the SLCSEs stored in the
shared library are functional replicas of OSCSEs and are
accessible to some of the plurality of software applications.
When one of the SLCSEs is accessed by one or more of the
plurality of software applications, it forms a part of the one
or more of the plurality of software applications. An instance
of an SLCSE provided to one or more of the plurality of software
applications from the shared library is run in a context of the
one or more of the plurality of software applications without
being shared with other of the plurality of software

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applications. One or more other of the plurality of software
applications running under the operating system have use of a
unique instance of a corresponding critical system element for
performing essentially the same function.

II.   The Claims are Patentable

The Examiner rejected independent Claim 1 over Cabrero
et al. Cabrero et al. is directed to a computer system that
uses a microkernel to execute two different tasks, for example,
operating systems, and uses a common shared library. Rather
than each task setting up its own libraries, a global offset
table is set up for each task so that the tasks can use common
shared libraries.

Independent Claim 1 has been amended to recite that
some of the SLCSEs stored in the shared library are functional
replicas of OSCSEs. The Examiner agreed that Cabrero et al.
fails to disclose the SLCSEs stored in the shared library being
functional replicas of OSCSEs. Instead, the Examiner indicated
that Cabrero et al. discloses a common shared library 44 that
includes addresses to the microkernel common services.   (See
Cabrero et al. Col. 8, lines 37-43). Nowhere does Cabrero et
al. disclose the SLCSEs stored in the shared library being
functional replicas of OSCSEs, or in other words, replacements.
Accordingly, independent Claim 1 is patentable for at least this
reason alone.

Additionally, Applicants submit that Cabrero et al.
fails to disclose an instance of an SLCSE provided to one or
more of the plurality of software applications from the shared
library being run in a context of the one or more of the

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plurality of software applications <u>without being shared with</u>
<u>other of the plurality of software applications</u>. The Examiner
contended that Figure 1, and Col. 5, lines 37-43, of Cabrero et
al., which is reproduced below for reference, disclose the
above-noted deficiency.

> Dominant personality applications 28
> shown in FIG. 1, associated with the UNIX
> dominant personality example, are UNIX-type
> applications which would run on top of the
> UNIX operating system personality 32. The
> alternate personality applications 39 shown
> in FIG. 1, are OS/2 applications which run
> on top of the OS/2 alternate personality
> operating system 35.

As discussed during the telephonic interview, nowhere
in the noted passages or anywhere else in Cabrero et al. does it
disclose an instance of an SLCSE provided to one or more of the
plurality of software applications from the shared library being
run in a context of the one or more of the plurality of software
applications <u>without being shared with other of the plurality of</u>
<u>software applications</u>. Instead, Cabrero et al. merely discloses
tasks 40 and 41, corresponding to the dominant and alternative
personality operating systems 38, 39 accessing the common shared
library 44 via an abstraction layer 45.

> Indeed, as described in the Cabrero et al. Summary of
the Invention section, and illustrated in Cabrero et al., Figure
2:

> A computer system employing a
> microkernel executes two different tasks,
> e.g., <u>operating systems</u>, yet uses common
> shared libraries. Rather than each task
> setting up its own libraries, during compile
> a global offset table is set up for each

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> task so that the tasks can use common shared
> libraries. An abstractions layer is
> established to allow the tasks to share the
> global offset table, and thus to use common
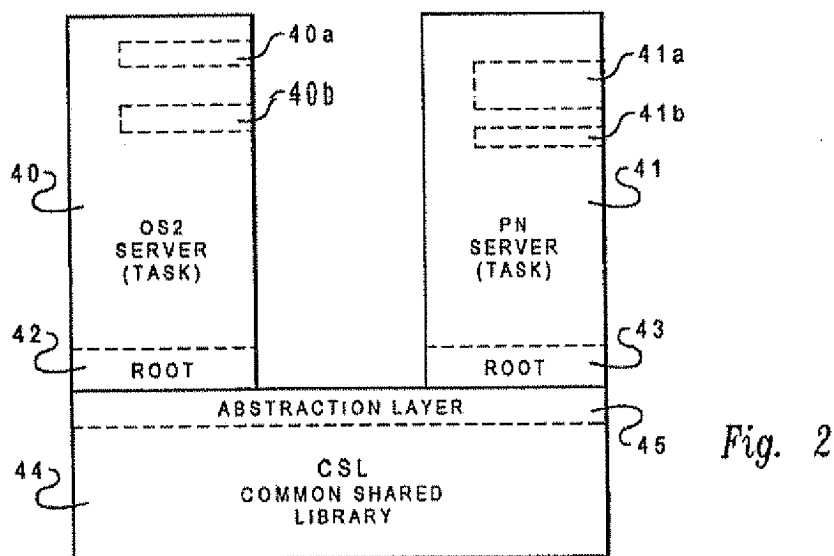> shared libraries. (Emphasis Added).

Figure 2 of the Cabrero et al. '075 Patent

Indeed, nowhere in Cabrero et al. does it disclose an instance of an SLCSE provided to one or more of the plurality of software applications from the shared library being run in a context of the one or more of the plurality of software applications without being shared with other of the plurality of software applications.

It is submitted that independent Claim 1 is patentable over the prior art. Its respective dependent claims, which recite yet further distinguishing features, are also patentable over the prior art and require no further discussion herein.

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III.   Conclusion

In view of the amendments and arguments presented above, it is submitted that all of the claims are patentable. Accordingly, a Notice of Allowance is respectfully requested in due course. If the Examiner determines any remaining informalities exist, he is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,

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